

Date : ....

Unit 1

Matter

Lesson 1:- *Measuring tools*

Matter :
It is anything that has a mass and volume.
Or: It is every thing that has a mass and occupies a part of space.

Mass:
It is the amount of matter that the object contains.

Volume:
It is the space that is occupied by the matter.

We will study: Length – Mass – Volume

1- Length

* The measuring *tools* of length:-
- graduated ruler or graduated tape.

* The measuring *units* of length:-

1- The centimeter (cm):-
Used for measuring small lengths

(Such as pen – book).

2- The meter (m.):-

Used for measuring large lengths
(such as the length of a classroom).
Note: 1metre (m.) = 100 centimeters (cm.)

3- The kilometer (Km.):-
Used for measuring very large lengths
(Such as the distance between Alexandria and Cairo)
Note: 1 kilometer (Km.) = 1000 meters (m.)





2- Mass

The measuring tools of mass:
1- Common balance (Two – pan balance)
It is used to weight: Fruits – Vegetables – Chess – Sugar

2- sensitive balance:-
It is used to estimate the mass of small objects like gold and chemicals

The measuring units of mass
1- the gram (g): used for small measuring masses
2- the kilogram (kg):used for large measuring masses
3- the ton: used for measuring heavy object
Note:1 kilogram = 1000 grams
1 ton = 1000 kg

3- volume

The measuring tools of volume:
1- Graduated cylinder:

It is used to measure the volumes of liquids such as water , oil … etc.

2- ruler:

The measuring units of volume:
1- The liter and milliliter: used for measuring volumes of liquids

2- The cubic meter (m^3) or cubic centimeter (cm^3): used for estimating the volumes of solids and liquids





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Complete the following statements:

1- The unit of measuring volume of solid objects is called …………

2- Matter is every thing that has ……… and………

3- The length of an object is measured by using……….. Or…………

4- Sensitive balance is used for measuring……… objects

5- The volume of a book is calculated by multiplying the…………×……….×……… height

6- Measuring ruler is used to measure………..

7- Measuring tape is used to measure………….

8- Meter is the unit for measuring…………….
.

9- Common balance is used for measuring………..



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The methods of measuring volumes:

1- Estimating the volume of an amount of a liquid:-

Steps:-

1-Bring a graduated cylinder.

2- Pour amount record the reading of a cylinder that will be the volume of the water V = 60 (volume of the liquid) = 60 milliliter

2- Estimating the volume of a solid body:

A- Regular solid body (measuring the volume of a box or a book):

1- Measure the length, width and the height of a book

2- Calculate the volume of the book:-

Volume = length × width × height

Ex:-

Calculate the volume of a box whose length equals 7cm, its width equals 5cm, and its height = 2cm

A- The volume of the box = length × width × height = 7 × 5 × 2 = 70 cm3

B- Irregular solid body that insoluble in water:-

* How to measure the volume of a piece of stone?

Steps:-

1- Pour amount of water in a graduated cylinder and record the volume of water (v1)

2- Put the stone carefully in the cylinder and record the new volume of water (V2)

3- The volume of the stone = the difference between the two readings V2 – V1





The relation between the volume and mass

- Equal volumes of different substances have different masses:-

To prove that:

Steps:

1-Get two cubes have the same volume. One is made of iron and the other one is made of wood

2-Put the iron cube in one pan of the common balance and the wooden cube in the other pan

Observation:

The iron cube has higher mass than the wooden cube

Conclusion:

Equal volumes of different substances have different masses





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Lesson 2

Matter and its changes

The states of matter are:

1- Solid state:

Such as: Ice – sugar – iron – wood – copper – gold, and silver.

2- Liquid state:

Such as: Water – oil – alcohol – mercury, and kerosene.

3- Gaseous state:

Such as: Air and its components:

1- Oxygen.
2- Nitrogen.
3- Carbon dioxide.
4- Water vapor.

1- Solid matter

It has definite shape and volume.

Activity 1:

To prove that the solid matter has a definite shape and volume.

Steps:

1- Put 3 different solid materials in 3 test tubes.

2- Compare between the shape and volume of each body in the test tube and its real shape and volume.

Observation:

The volume and the shape of each body don't change.

Conclusion:

Solids have definite shapes and volumes.

2- Liquid matter

It has a definite volume and indefinite shape (it takes the shape of its container).

Activity 2:

To prove that the liquid matter has a definite volume and an indefinite shape.

Step:

1- Put 100 cm of water in each of three different containers (different in shape).







Observation:
The volume of water doesn't change, but its shape changes taking the shape of its container.
Conclusion:
Liquids have definite volumes, but they don't have definite shapes.
3- Gaseous matter
It hasn't a definite shape or volume (it takes the shape and volume of its container).

Activity 3:
To prove that gaseous matter hasn't a definite shape or volume.

Steps:
1- Blow air in a balloon and tie it with a thread.
2- Press on the balloon with your hand.
Observation:
The shape and volume of air change by pressing on the balloon.
Conclusion:
Gases haven't definite shapes or volumes.
Comparison between the three states of matter:

Aspect	Solids	Liquids	Gases
Volume	Definite	Definite	Indefinite(take the volumes of their containers
Shape	Definite	Indefinite(take the shapes of their containers	Indefinite(take the shapes of their containers
Examples	Iron - stone- ice	Oil – alcohol – water.	Oxygen- nitrogen- water vapour.





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Changes of matter

Matter exists in only one state at the ordinary room temperature.
Matter can be changed from one state to another by heating or cooling.
So, water as matter changes from one state to another by heating or cooling.

1- Changing of water from the solid state to the liquid state:

Activity 4:

To show that water changes from the solid state (ice) to the liquid state.

Step:

Put some pieces of ice in a clean glass cup and leave it in air for a period of time.

Observation:

Ice changes into water as it acquires heat from the surrounding air.

Conclusion:

Water changes from the solid state (ice) to the liquid state by heating and this process is known as *melting*.

Melting:

It is the change (transfer) of matter from the solid state to the liquid state by heating.

2- Changing of water from the liquid state to the gaseous state:

Activity5:

To show that water changes from the liquid state to the gaseous state (water vapour).

Step:

Boil an amount of water in a pot or try to prepare tea.

Observation:

The amount of water in the pot decreases, because it changes into water vapour that comes out from the pot.

Conclusion:

- The increasing of the temperature of water to the boiling point causes the change of water into water vapour.
- Water changes from the liquid state to the gaseous state by heating and this process is known as *evaporation*.

Evaporation:

It is the change of matter from the liquid state to the gaseous state by heating.





3- Changing of water from the gaseous state to the liquid state:

Water changes from the gaseous state to the liquid state by cooling and this process is known as *condensation*.

Condensation:

It is the change of matter from the gaseous state to the liquid state by cooling.

Examples on condensation process:

1- Appearance of some water droplets on leaves of plants in the early morning.

2- Appearance of some water droplets on the covers of cooking pans during cooking.

4- Changing of water from the liquid state to the solid state:

Activity 6:

Step:

Put an amount of water in a plastic bottle, then put it in the freezer for five hours.

Observation:

Water changes into ice.

Conclusion:

Water changes from the liquid state into the solid state (ice) by cooling and this process is known as *freezing*.

Freezing:

It is the change of matter from the liquid state to the solid state (ice) by cooling.





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Work sheet 2

Give reason for each of the following:

1- Gold and copper are solids.
2- Air is a gaseous matter.
3- Milk is a liquid.
4- A piece of copper has a definite shape when we carry it from a container to another one.
5- The glass bottle which is put in the freezer shouldn't be full of water.

Complete the following statement:

1- State of matter are………….. , ……………… , and……………… .
2- Matter that has a definite volume and an indefinite shape is known as……………… .
3- Matter that takes the shape of its container, but its volume doesn't change is……………… .
4-On transferring water from one container to another, its ……………. will change.
5- Matter can be pressed in case of ………… state.
6- The …………. substances have definite shapes and volumes.
7- Changing of ice into water is considered a ……………. process.
8- The continuity of decreasing water temperature changes it from the………….. state to…………… state.
9- Increasing the temperature of water to the boiling point changes water into ………………… .

Choose the correct answer:

1- When we pour water from container (A) into (B),then into (C), we observe that the volume of water in container (A) is
a- larger than (B). b- larger than (C).
c- less than (B). d- equal in (B) and (C).

2- In gold industries, gold needs process.
a- melting. b- condensation.
c- evaporation. d- cooling.

3- The change of matter from the liquid state into the gaseous state (water vapour) is called .
a- freezing. b- condensation.
c- evaporation. d- melting.





4- Changing of matter from the gaseous state to the liquid state is called .

a- freezing. b- evaporation.

c- melting. d- condensation.

5- The decrease in temperature (cooling) is accompanied by Process(es).

a- melting. b- condensation.

c- evaporation. d- (a) and (b) together.

Put (✓) in front of the right statement and (×) in front of the wrong one, then correct it:

1- Matter exists in four states. ( )

2- Iron and wood are from the solid substances ( )

3- Gaseous substances have indefinite shapes and volumes. ( )

4- Ice is transferred into water by cooling. ( )

5- Gaseous substances always take the shapes and the volumes of their containers. ( )

6- Liquids have definite shapes and volumes. ( )

What happens in the following cases:

1- When a bottle of water is put in the freezer.

2- If you boil water and expose the product to a cold surface.





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Lesson 3

Elements around us

Matter may exist as an element or as a compound.

Element:

It is the structural unit of matter and it is the simplest form of matter that can't be analyzed into two substances or more.

The elements are classified into:

A- Metals: Solids or liquids.

Examples of solids: Iron- Copper- Aluminium-Gold- Silver- lead.

Example of liquids: Mercury.

B- Non metals: Solids, liquids, or gases.

Examples of solids: Sulphur- Carbon- Phosphorus.

Example of liquids: Bromine.

Examples of gases: Oxygen- Nitrogen.

Properties of metals and non-metals:

1- Metals are shiny(have metallic luster), but non-metals are not.

2- Metals are good conductors of electricity, but non-metals are bad conductors of electricity except carbon.

3- Metals are good conductors of heat, but non-metals are bad conductors of heat.

4- Metals have high melting and boiling points, but non-metals have low melting and boiling points.

5- Metals are malleable, but non-metals are not.

Notes:

1- Metals as (Aluminium, Copper, and Iron) are good conductors of electricity.

2- Non-metals are bad conductors of electricity except carbon which is a good conductor.

Activity 1:

To prove the ability of metals and non-metals to conduct heat.

Steps:

1- Bring bars of iron, copper, aluminium, and sulphur.

2- Put a piece of wax at one end of each bar and expose the other end to the flame of a candle for some times.

Observation:





1- The wax melts at different times in case of iron, copper, aluminium bars.
2- Wax doesn't melt in case of the sulphur bar.

Conclusion:

Metals are good conductors of heat, while non-metals are bad conductors of heat.

Activity 2:

To prove the ability of metals and non-metals to be melted.

Steps:

1- Bring samples of iron nails, sulphur crystals and a copper wire.
2- Heat each sample by using a bunsen flame.

Observation:

The iron nails and copper wire don't melt, but the sulphur crystals melt easily.

Conclusion:

Metals have high melting points, but non-metals have low melting points.

Life applications of some metals and non-metals

Element	Kind	Importance
Iron	Metal	In making bridges, car chassis, doors and street lights.
Aluminium	Metal	In the manufacture of cooking pans, electric wires, and some doorknobs.
Gold and silver	Metal	In making jewellery.
Copper	Metal	In making electric wires, and coins.
Carbon(graphite)	Non-metal	In making the positive electrodes (poles) of dry batteries.





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Work sheet 3

Give reason for each of the following:

1- Car chassis and bridges are made of metals not from non-metals.
2- The handles of cooking pots are made of wood or plastic.
3- Electric wires are made of copper and aluminium.
4- We mustn't approach a nail to an electric source.

What happens in the following cases:

1- You fix a piece of wax at one end of an iron bar and expose the other end to a candle flame.
2- You heat a piece of copper and some crystals of sulphur to high temperature.
3- The handles of cooking pots are made of aluminium and why?

Complete the following statement:

1- ……….. is the substance that can't be decomposed into two substances or more.
2- Elements are classified into …………….and……………… .
3- The group of …………… has metallic luster, but the group of doesn't have.
4- Silver is a shiny element, so it belongs to………. , while sulphur is an element that doesn't have luster so, it belongs to …………… .
5- Graphite is from…………… elements and it is a good conductor of .

Choose the correct answer:

1- Is an example of non-metals.
a- copper b- carbon c- iron

2- Carbon .
a- is a good conductor of heat.
b- is malleable or ductile.
c- is a good conductor of electricity.
d- (a),(b), and (c).

3- Gold and silver are used in manufacturing of .
a- bridges b- planes
c- jewels d- cooking pots.





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Lesson 4:

Physical and chemical changes

The changes that may occur to matter are:
1- Physical change. 2- chemical change.

1- Physical change

Physical change of matter:
It is a change in the appearance (shape) of matter without any change in its structure.
1-Physical change of matter:
It is a change in the appearance (shape) of the matter without any change in its structure .
Ex:
1- Change of water from one state to another is a physical change as the shape of water changes, but its structure doesn't change.

2- Melting of wax

Activity 1:

To prove that melting of wax is a physical change.
Steps:
Fix a burning candle on a glass sheet or a plate.
Observation:
The wax melts and changes into liquids drops, then this liquid solidifies again
Conclusion:
Melting of wax is a physical change as the appearance of wax changes, but its structure doesn't change.
3- Grinding of sugar.
4- Dissolution (dissolving) of salt or sugar in water.





Other examples for physical change of matter:

- Melting of any solid matter as chocolate, wax and ice.
- Malleability, ductility, and bending of elements.
- Grinding chalk into powder.
- Freezing of any liquid matter.
- Evaporation of water forming water vapour.
- Paper recycling.

2- chemical change

Chemical change of matter:

It is a change in the structure of the substance producing a new substance or new substances with different properties.

Examples:

1- Burning (charring) of sugar.
2- Combustion of paper or any matter.

Activity 2:

To prove that combustion of paper is a chemical change.

Steps:

1- Burn a white paper.
2- Compare between it after and before burning.

Observation:

1- The white paper changes into a black ash.
2-The black ash can't be returned to its original form again.

Conclusion:

Combustion of paper is a chemical change as the shape and the structure of white paper change by burning.

1- Rusting of iron:

Activity 3:

To prove that rusting of iron is a chemical change.

Steps:

Bring a piece of cleaning iron wire, and expose it to air.

Observation:

Formation of a brown layer on the iron wire (rust).

Conclusion:

Rusting of iron is a chemical change as the shape and the structure of the cleaning iron wire change when it is exposed to air and react with water and oxygen.

Other examples for chemical change of matter:





1-Fermentation of fruits.
2-Fermentation of sugar.
3- Burning (combustion) of any matter as a candle.
4- Addition of yeast to pastry.
5-Production of yoghurt from milk.
6-Digestion of food.

Notes :
-Melting of any solid matter is a physical change .
-Freezing of any liquid matter as water is a physical change .
Evaporation of water forming water vapour is a physical change.
-Boiling of water is a physical change .
-Condensation of water vapour into water drops is a physical change .

Compare between physical and chemical changes:

Points of comparison	Physical change	Chemical change
1-change in the appearance of the substance .	-Takes place .	-Takes place .
2-Change in the structure of the substance .	-Doesn t take place.	-takes place .
3-Examples :	1-Melting of ice . 2-Melting of wax . 3-Evaporation of water .	-Burning of sugar . -Burning of candle . -Rusting of iron .





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Work sheet 4

Complete the following statements :

1-Melting of ice considered a………………….change.
2-Boiling of water to form water vapour is considered as a………….change.
3-The chemical change is a change in the …………….
4-Burning of wood is considered a…………..change.
5-Melting of wax is considered a…………….change,while burning of candle is a …………change .

Choose the correct answer

1- ………….. is an example of the physical change.
a-Dissolving of sugar in water.
b-Combustion of a candle.
c-Rusting of iron .
2-The change of water from one state to another is a physical change because …………
a-the shape of water changes,but its structure doesn t change .
b-the structure of water changes only.
c-the shape and structure of water change .
3-All of the following are chemical changes except …………
a-burning of coal.
b-combustion of paper.
c-formation of table salt solution.

Write the scientific term

1-A change occurs when a piece of sugar is burned .
2-A change that occurs when water changes into water vapour.
3-A change occurs when iron reacts with oxygen and water

Give reason for the following :

1-Wood burning is a chemical change.
2-Melting of ice is a physical change .
3-Rusting of iron is considered a chemical change.
4-Burning of a piece of sugar is a chemical change.

Compare between :

1-Burning of a candle and melting of wax .
2-Dissolving of sugar in a glass of wat





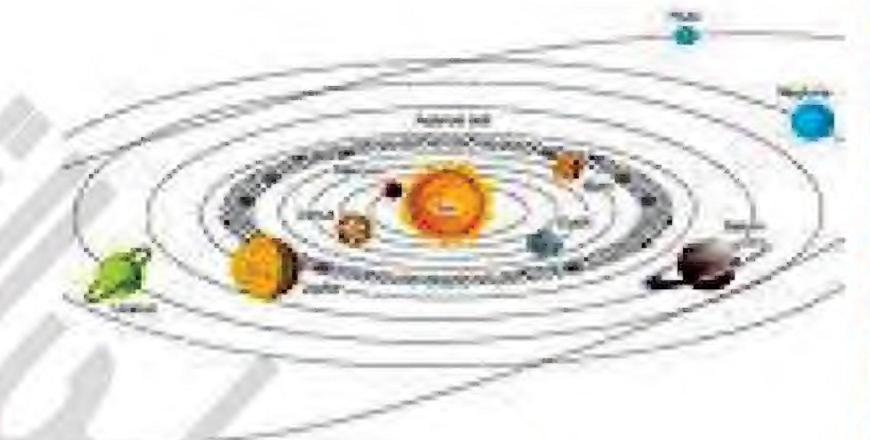
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Unit (2): lesson 1

STARS & PLANETS

There are many celestial bodies in the space as:

1-stars
2-Solar system



1-Stars

The characteristics of stars:

1. They are lightning bodies in the space.
2. They have different sizes ;there are very big stars, medium-sized stars and small stars
3. G.R→ the big stars look very small to us ☼ Because they are very far away from us.





2-Solar system

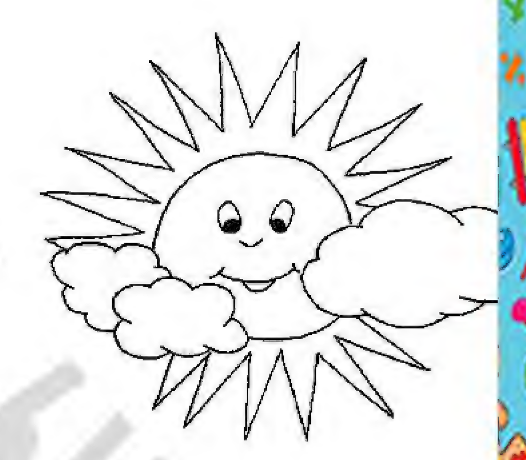
The solar system includes celestial bodies as:

1-The sun 2- Eight planets 3-Moons

4-Other celestial bodies

1-The sun

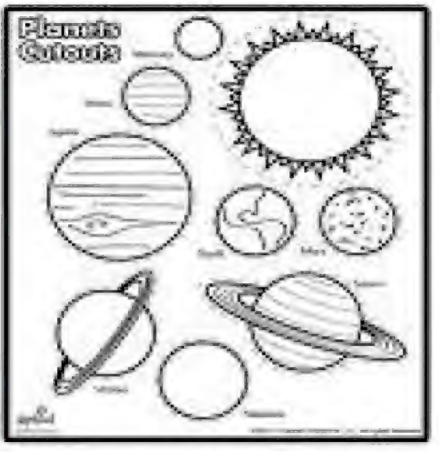
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1. It is a self-shining body (star) that emits heat and light.
2. It is the biggest body in the solar system
3. It lies at the centre of the solar system
4. G.R→ It is a medium-sized star, but it looks the biggest one to us ☼ Because it is the nearest star to us.

2-The eight planets

……………………………………………………………



They are eight dark bodies that revolve around the sun in fixed orbits -

The arrangement of the planets:-

1-Begining from the nearest to the farthest:

(Mercury- Venus –Earth- Mars - Jupiter – Saturn –Uranus –Neptune)

2-Beginning from the biggest to the smallest:

(Jupiter – Saturn – Uranus – Neptune – Earth – Venus – Mars - Mercury)



3-Moons

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- They are the followers of the planets that revolve around them.
- The moon that revolves around the Earth is the nearest neighbor to us in the space
- G.R→ the moon is a dark body but it seems shiny ☼ Because it reflects the sunlight falling on its surface.

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Work sheet no. 1

►Complete:

1. …………………locates at the center of the solar system and there are …………………. that revolve around it.
2. The number of planets that revolve around the sun is…………. .
3. The nearest planet to the sun is ……………….. , while ……….….. is the farthest planet from the sun.
4. The biggest planet is ……………., while ……………..…. is the smallest planet.
5. ……………….….. are followers of some planets.

►Put (✓) or (✗) and correct the wrong statement.

1. Stars are equal in size ( )
2. Moons are shiny bodies ( )
3. The biggest planet in the solar system is Jupiter ( )
4. The sun is the nearest star to us ( )
5. The closet two planet to the earth are Venus and mars ( )

►Give reason:

1. The big stars appear smaller to us
2. The sun is star
3. The sun seems bigger to us than the other stars





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Lesson 2

The movement of sun and Earth

1) The movement (rotation) of Sun

- The sun is one of millions stars
- The sun is a medium-sized star, but it looks the biggest one to us than the other big stars because it is the nearest one to us
- The sun rises from the east and sets from the west
- The sun seems to be moving from east to west, but this is not true and this is called the apparent movement of the Sun



The apparent movement of the Sun:

- This phenomenon occurs because the earth revolves around itself (its axis) as we will see later
- As a result of that, we observe the occurrence of the movement of shadow during the sunrise, midday and sunset

2-The rotation of the Earth

- The earth is one of the planets, where we live as it contains air, water and food
- The Earth consists of two hemispheres (northern hemisphere and southern hemisphere)
- The Earth revolves around itself and around the sun

(A) Rotation of the Earth around itself:

- The Earth rotates around its axis (itself) and it takes 24 hours (one day) to complete one round.
- The side of the Earth that faces the Sun during rotation is bright (day) and the other side is dark (night).
- So, the rotation of the Earth around its axis causes the sequence of day and night.







(B) Rotation of the Earth around the Sun:

- Earth revolves around the Sun once each " 365 ¼ " day and this is called year.
- This rotation causes the sequence of the four seasons.
- The four seasons are "Summer - Spring - Autumn - Winter".
- The day in summer season is longer than the day in the winter season due to Earth orbit around Sun (apparent movement of Sun) during summer is longer than that during winter.
- In spring and autumn, the number of hours of day and night is nearly equal.

➔ High Lights:

★ The sequence of day and night occurs as the Earth rotates around its axis
★ The Earth takes 24 hours to complete one rotation around its axis.
★ The hours of day don't equal the hours of night as the axis of rotation of Earth is inclined.
★ Earth revolves around the Sun once each " 365 ¼ " day this is called year and this rotation causes the sequence of the four seasons.
★ The part of Earth inclined towards the Sun receives larger amount of light and this occur in the summer season.





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Work sheet no.2

►Complete:

1. The earth rotates around …………………..…. And around ………..……………… .
2. The apparent movement of the sun is due to the rotation of …………………… .
3. In the …………………… season, day is longer than night.
4. Sequence of …………………….. Occurs due to rotation of earth around its axis , while sequence of …………………….. Occurs due to rotation of the earth around the sun .
5. Earth rotates around the sun once every …………………….. .

►Put (✓) or (✗) and correct the wrong statement.

1. The sun doesn't rotate around the earth ( )
2. The earth rotates around it self only ( )
3. The of four seasons occurs due to the rotation of the sun around the earth ( )
4. The day is nearly equal the night in summer and autumn seasons ( )

►Give reason:

1. Sequence of day and night
2. Sequence of the four seasons



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Final revision

➔Complete:

1. Matter is everything that occupies a part of ……………….and has…………. .
2. There are two types of balances which are…………………….and………………. .
3. Matter can be changed from one state to another by……………....or…………………
4. The measuring units of volume are ……………….,…………………and…………….
5. The number of planets that revolve around the sun is………………………
6. Water vapour changes into ……………………by…………………
7. Mater exist in three states which are……………..,liquid and…………………
8. Water freezes by ……………..and evaporates by………………………
9. The biggest planet is ……………., while ……………..… is the smallest planet.
10. When ice melts ;it changes from…………………stats to………….state by…………
11. Water and ……………………are matter exist in……………….state.
12. Graduated cylinder is used to measure……………….of liquids.
13. In the …………………… season, day is longer than night.
14. ……………………. are followers of some planets.
15. Liquid have……………..volume and don't have definite ………………..
16. Air is a ………………..matter because it doesn't have definite ………………and volume.



17.Earth rotates around the sun once every ……………………

18. The air is a mixture of different ……………….. .

19. nearest planet to the sun is ……………….. , while ……………. is the farthest planet from the sun.

20. The apparent movement of the sun is due to the rotation of ……………………

21.Nitrogen gas is used in the industry of …………………… and …………………

22.Both liquids and gases have no definite ……………………

23.…………………. is the temperature expected during day time .

24.If liquid freezes , it becomes……………………

25.Condensation is the change of matter erom the …………….state to the…………….state.

26.The litre unit is used to measure the…………………of liquid.

27.Divers carry ……………….. Cylinders on their backs to help them in ……………….. .

28.Atmospheric pressure is measured by …………………..

29.Nitrogen gas is used in the industry of …………………… and ……………………

30.………………….. is used to measure wind speed, while ………………….. Is used to determine wind direction.

31.……………………… gas that used in making soda water.

32. The volume of brick =………………………x…………………x………………

33. We use ………………… to measure the volume

34. The length of object is measured by using

……………………or………………..

35. Solids and……………have definite………………..

36. Green plants depend on ………………… gas in the photosynthesis

37. ……………………is a dark body but seems bright

38. The moon revolves around Earth in ………………………path.

39. The measuring unit of mass is ……………………and the measuring unit of volume is………………… while the measuring unit of length is…………

40. Atmospheric pressure is measured by ………………….. while wind speed is measured by …………………… .

➔Give reason:

1. Salt is a solid matter while oil is a liquid matter.
2. Air is gaseous matter.
3. Iron and copper are metals.
4. Milk takes the shape of its container but it has a definite volume.
5. Wood has a definite shape and volume.
6. The big stars appear smaller to us
7. Sequence of the four seasons
8. Oxygen gas is very necessary for life of living organisms.





9. The sun seems bigger to us than the other stars

10. The Sun is a star.

11. Cooking pans are made up of aluminum.

12. The shape of water inside the cylindrical container differs from its shape inside the conical container.

13. The occurrence of tide and ebb.

14. Painting the tools which are made up of iron before using them.

15. The moon is a dark object, but we see it shiny.

➔Write the scientific term:

1. Every thing occupies a space and has a mass.(…………………………..)
2. Shinning objects radiates light and heat and appears in the sky at night.

   .(…………………………..)
3. Dark objects revolve around the Sun and we live on it.

   .(…………………………..)
4. A change that happens when we burn a paper. .(…………………………..)
5. Dark object reflects the fallen Sun rays on its surface.

   .(…………………………..)
6. A device used to measure the mass of objects. .(…………………………..)



7. The matter that has no definite shape. .(………………………….)

8. The biggest planet in the solar system.(………………………….)

9. A phenomenon occurs due to the attraction force between the earth, moon and the sun. .(………………………….)

10. The rise of water level in water surface to cover sea shores.

.(………………………….)

11. A gas that used in making soda water.(………………………….)

12. The movement of air from regions of low atmospheric pressure.

.(………………………….)

13. A gas used with acetylene in cutting and welding of metals.

.(………………………….)

14. A state of matter that has a definite volume and shape.

.(………………………….)

15. One of the devices that is used to measure the length of any object.

.(………………………….)

16. The state of mater that has an indefinite shape and volume.

.(………………………….)

17. The temperature expected at night. .(………………………….)



18. One of the measuring units of mass. .(…………………………)

19. The changing of matter from gaseous state to liquid state.

.(…………………………)

20. The nearest planet to the Sun.(…………………………).

21. One of the measuring tools of volume. .(…………………………)

22. A change that occur when we melt wax. .(…………………………)

23. It is the simplest form of matter that can't be decomposed into two substances or more. .(…………………………)

24. The elements that have metallic luster and good conductors of heat and electricity. .(…………………………)

25. A change un the structure of the substance that gives a new substance with new properties. .(…………………………)

26. A change happens when we produce yoghurt from milk.

.(…………………………)

27. A unit used to measure the very big masses. .(…………………………)

28. The transfer of ice into water by heating. .(…………………………)

29. The change of water into water vapour. .(…………………………)

30. Elements that don't have metallic luster. .(…………………………)



What is meant by?

1. Melting:……………………………………………………………
2. Condensation:……………………………………………………
3. Matter:…………………………………………………………….
4. Volume:…………………………………………………………
5. Physical

   change:………………………………………………………….
6. chemical

   change:………………………………………………………….
7. Planets :…………………………………………………………
8. Moons :…………………………………………………………….
9. The tide……………………………………………………………
10. Mass:……………………………………………………………





Mention one use of:

1. Graduated tape
2. Gram
3. Nitrogen gas
4. Digital thermometer
5. Cubic metre
6. Litre
7. Sensitive balance
8. Graduated cylinder
9. Carbon dioxide gas
10. Barometer
11. Oxygen gas
12. Wind vane
13. Kilogram







Answers

1- space 2-senstive-common balance 3-heating – cooling

4-litre –cubic centimeter – milliliter 5- 8

6-water – heating 7-solid – liquid – gas

8-cooling- heating 9-jupiter- mercury

10 -solid – liquid – gas 11-oil – liquid

12-volume 13- summer 14-moons

15- definite – shape 16-gaseous –shape

17-365 ¼ days 18-gases 19-Mercury-Neptune

20-rotation of Earth around itself 21- ammonia- nitrogen fertilizer

22-shape 23-maximum temperature 24- solid

25- Gaseous – liquid 26-volume 27-oxygen – breathing

28-barometre 29- soda water 30- anemometer

31- Carbon dioxide 32- length x width x height

33 Graduated cylinders

34-graduated tape – ruler 35 – liquids – volume





36-carbon dioxide 37-moon 38-cicular

39-kilogram – litre- meter

40- barometer –anemometer

G.R

1-Bec. Salt has definite shape and volume but oil oil has definit volume and no definite shape.

2-Bec. Air has no definite shape and no definite volume.

3- Bec. They are shiny and good conductors of heat and electricity.

4-Bec . Milk is liquid

5-Bec.wood is a solid matter

6-Bec. They are very distant (far) from us.

7-Due to the rotation of the Earth around the Sun.

8-Bec. It is necessary for respiration process and combustion of fuel.

9-Bec. It is the nearest star to us.

10-Bec.it is self-shining body that emits heat and light.

11-Bec.aluminum is good conductor of heat (metal)

12- Bec. Water has no definite shape.









13-Due to the attraction force between Sun, Earth and moon but the moon is more effective.

14- To avoid rusting of iron.

15- Bec. The moon reflects the sunlight falling on its surface.

Scientific term:

1-matter 2- stars 3- planet

4- Chemical change 5-moon 6- common balance

7-liquid 8- Jupiter 9- tide and ebb

10-tide 11-carbon dioxide 12-wind

13-oxygen 14-solid 15-graduated tape

16-gaseous state 17-minimum temperature

18-common balance 19 – condensation

20-mercury 21- graduated cylinder 22-melting

23-element 24-metals 25-chemical change

26- Chemical change 27-kilogram 28- melting

29-evaporation 30 - non- metals





Practical work J4

Activity 1

To show that water changes from solid state to liquid state.

Observation:

Ice changes into water .

Conclusion:

Water changes from solid state to liquid state by heating

Activity 2

To prove that melting wax is a physical change.

Observation

The wax melts and changes into liquid drops

Conclusion:

Melting wax is a physical change

Activity3

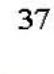
To prove that combustion of paper is a chemical change.

Observation

The white paper changes into a black ash.

Conclusion:

Combustion of paper is a chemical change.







Activity4

To show the presence of carbon dioxide gas in atmosphere

Observation

The clear lime water becomes turbid

Conclusion

Air contains carbon dioxide gas



